WINTER COMES TO YELLOWSTONE

By Stanley G. Canter

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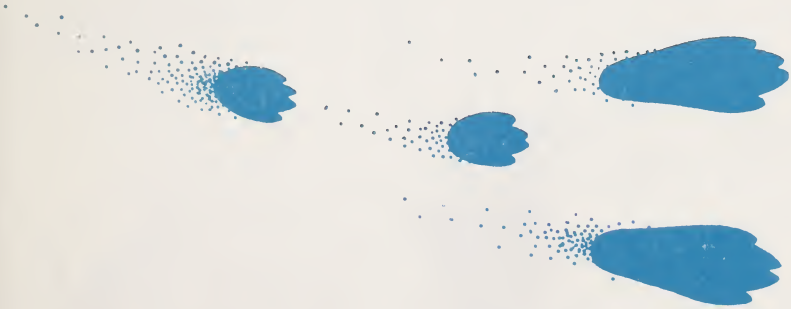

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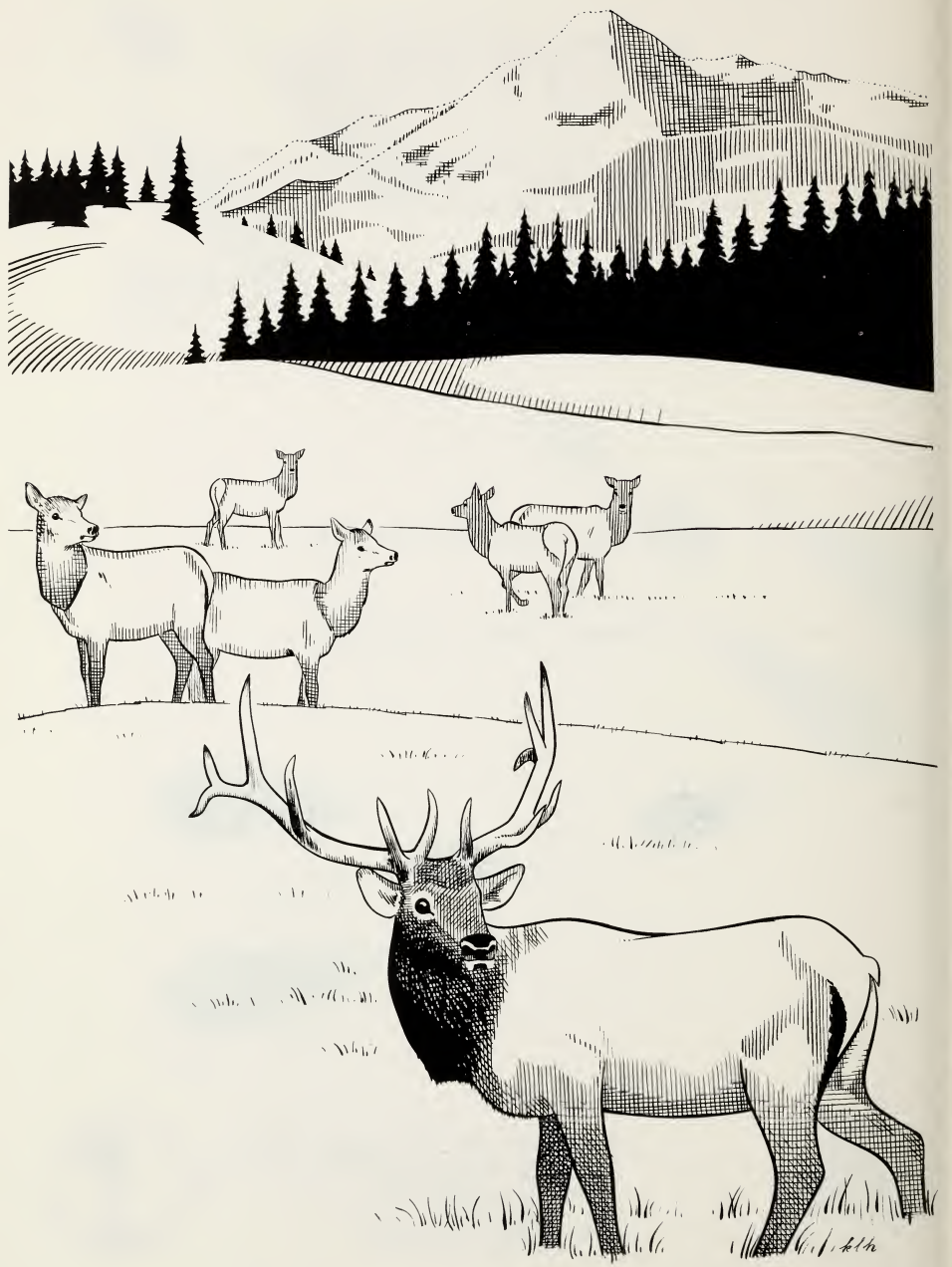

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WINTER COMES TO YELLOWSTONE

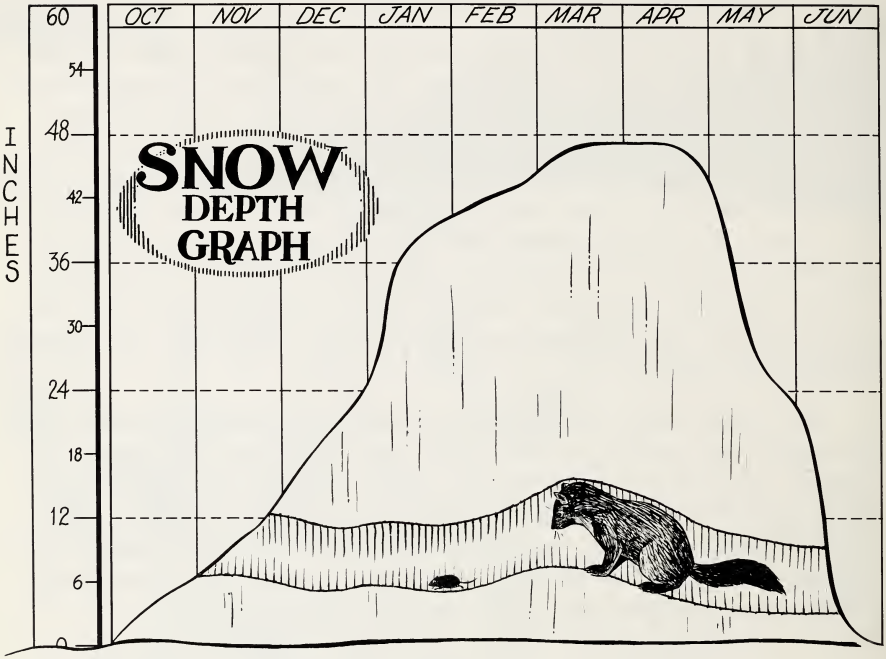
In early September the air turns cool, shadows lengthen, a thin skim of ice forms across puddles in the early morning hours; bull elk begin rounding up their harems, and an occasional herd of bison drifts across the lower geyser basin.

Gradually aspen leaves change color, wither, and fall from the trees. As the bears begin to search for winter dens and the last bugle of a bull elk shatters the stillness, the icy fingers of winter grip the Yellowstone country. Snow begins to fall.

Animals, such as elk, which earlier had access to the almost limitless lush meadows of summer, find themselves crowded into lower elevations as snow depth increases. Those in the southern half of the park move south into the Jackson Hole country, while elk from the northern half move to lower elevations along the northern boundary. More than 2 million acres that were available to them in the summer have now been reduced to a few hundred thousand. A small herd of about 1,200 animals remain in the park interior. As the cold white blanket inches its way down into the lowlands, the animals begin a test of fitness which only the most hardy will survive.

For man, winter in Yellowstone brings an exciting opportunity to escape the routine of city living and to witness and enjoy the beauty of a natural environment. Most visitors will explore the park by car or snowmobile. A rugged few will penetrate the silent white world on skis or snowshoes and delve more intimately into nature's solitude. For all who take time to seek it, a fascinating complex of wildlife and winter scenery awaits.

Winter comes early to Yellowstone's high plateau country. Snow has been recorded every month of the year. Normally, snow covers the ground from early October until mid-June, and typical midwinter depths may exceed 4 feet in the interior of the park. Nighttime temperatures commonly reach —15° during the winter, with a record low of —66° F.



Winter's Test

The test which plant-eating animals must undergo in winter is not a cruel, wasteful whim of nature. Rather, it is an important check which contributes to a balance between animal populations and their plant food. When the populations reach an upper limit, the stress of a severe winter will increase the natural death rate and will reduce production of young by the surviving animals the following spring. With the temporary decline in animal numbers, food is no longer in short supply, and animal numbers begin to increase again. In this way winter plays a governing role in the natural fluctuation of animal populations. It has done so in Yellowstone for many thousand years.

Predators are another important control factor in the animal world. Eagles, wolves, coyotes, hawks, mountain lions, and many others prey on the less healthy animals weakened by the winter test. The survivors, those that are in the best physical condition, will produce the next generation, assuring the continued vitality of the stock.

Animals such as the grizzly bear are in a very weakened condition when they come out of their dens in the spring. In order to survive, they need large quantities of easily obtainable food. The availability of winter killed or weakened animals may have a great bearing on the number of these magnificent beasts that will survive to breed.

Hints on Seeing Wildlife

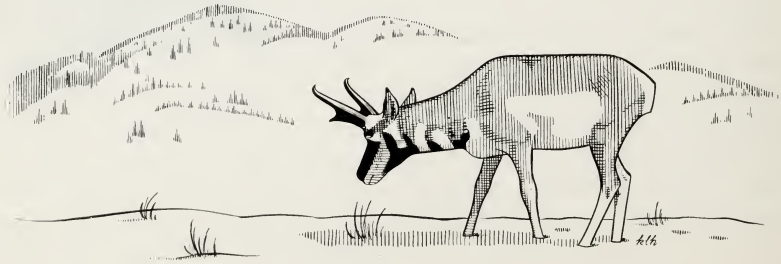
Your chance of seeing wildlife, either from auto or snowmobile, is excellent in winter. Deep snow in the high country concentrates animals in valleys and at lower elevations — places that are more accessible to visitors. And most animals are more easily seen when their dark coats stand out against the background of white snow.

At all times of the year, early morning and late afternoon hours are best for observing animals. But in winter if you drive slowly and stop frequently to scan the country with binoculars, you should have some success throughout the day. Remember though, that all animals in Yellowstone are wild and free to roam. None are fenced. A bit of luck always helps in seeing animals at any time of the year!

Bison, moose, antelope and coyotes may be seen at any time of the day. Scan open slopes, meadows, sagebrush areas, and the edge of the treeline. If you spot a dead animal, be on the lookout for coyotes, bald eagles, wolves, or in the spring a black or grizzly bear that may have been attracted to the area by the carcass.

The wildlife map and the following tips will help you obtain sightings of specific animals. Different species prefer different types of food, cover, and terrain. Your chances of finding a particular species are much better if you learn the habitat preference of the animal.

Pronghorn Antelope — Found on rolling grasslands at low elevations. During winter pronghorn are often seen in the flat area surrounding the North Entrance Station, on both sides of the Gardner River. Their range extends from near Gardiner, Montana northward along the west side of the Yellowstone River. Use binoculars and scan the flats and slopes carefully. Chances of seeing pronghorn are very good, but, because of their color pattern, they may be missed even at close distance.



Bear — Normally in their dens from early November to early March, black bear are found along the roadside through wooded areas from early May into November. During spring watch for grizzlies in the open areas of the Lamar Valley, and especially in Hayden Valley where they seek out the carcasses of winter killed animals and spend much time grubbing for plants and rodents. To spot a grizzly, you will want to carefully search the open landscape with binoculars.

Bighorn — Although scattered in remote parts of the park during the summer, bighorn are comparatively easy to find in winter when they inhabit rocky cliffs and open slopes in the northern part of the park. Bighorn are on their winter range from about mid-October to early May and may be seen in or near rough terrain between Gardiner and the Northeast Entrance, especially on the east side of the canyon between Gardiner and Mammoth.

Bison — They frequent flat, open grassland areas rather than slopes. Because of their massive size and strength, they can move through and feed in deeper snow than most animals. They are able to reach buried grass by swinging their massive heads in a pendulum motion, pushing the snow aside.

Coyote and Wolf — Coyotes range throughout the entire park. They commonly frequent meadow areas such as Lamar Valley where they hunt pocket gophers and mice. Occasionally wolves are sighted in the park. They can be distinguished from the more common coyote by their greater size (wolf 60-100 lb.; coyote 20-40 lb.) and by their general darker coat color. Wolf sightings should be reported to the park rangers.

Deer — Best seen during early morning and late afternoon. Habits of the mule deer change as the winter season progresses. *During early winter* watch in brushy areas, in Douglas Fir forests, and on sagebrush slopes. *During midwinter* most deer are restricted to lower elevations. They move lower as the snow deepens. *During early spring* heavy concentrations of deer are found at low elevations where new green grass is exposed. Hundreds feed in the bottomlands along the Yellowstone River from Gardiner north toward Livingston. A few spend the winter in scattered locations in the interior of the park.

Elk — Elk are found in many types of cover. In winter they forage early and late in the day on grassy or sagebrush slopes, and in meadows. During midday watch for them bedded down at the edge of forested areas and along ridges. In midwinter they will be on open south facing slopes or on ridge tops that are blown free of snow.

Moose — These animals, less common in Yellowstone than elk or deer, like open streamsides, willow thickets, and forest. In this park moose live as solitary creatures or in small family groups, rather than in herds.

Waterfowl — Large numbers of ducks, geese, and swans often concentrate on sections of rivers where the current or nearby thermal action keeps the surface free of ice.

How Winter Affects Thermal Features

Do the hot springs cool down during the winter? Do the geysers stop erupting? Do the beautiful beds of algae die? Possibly these questions have crossed your mind. To each question the answer is "No."

Certainly the altitude and latitude of the geyser basins of Yellowstone subject them to one of the most rigorous climates in the world. You might assume that an extremely cold temperature would cool the thermal features, especially the large pools which have an extensive surface of water exposed to the weather.

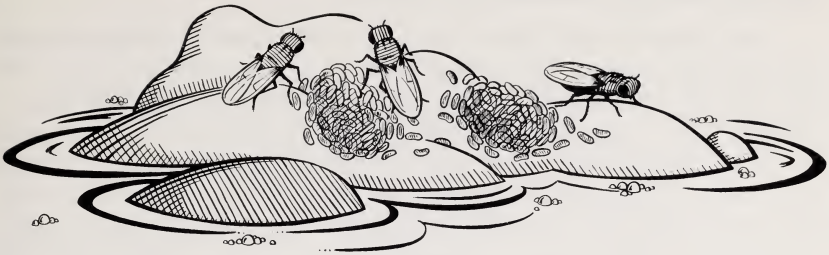
Temperature records of several thermal features taken year around indicate that they do not cool measurably during even the coldest winter weather. The constant flow of hot water from below maintains a stable temperature throughout the year. Nor do winter temperatures have an affect on geyser activity. And with a continuous overflowing of warm thermal water, algae beds remain lush year around.

A DIFFERENT WORLD

The dark hulk of a bull buffalo looming through a dense blanket of fog as he plods his way among hissing steam vents and boiling hot springs; frost-covered "ghost trees"; thin blanket of ground fog punctuated by steam hurtling several hundred feet into the sky from an eruption of one of the giant geysers: all give an eerie, unreal feeling to the thermal basins in the winter and make them fascinating places to explore.

When climatic conditions are just right, the steam given off continually by vents and hot springs condenses on the surrounding trees completely encasing them in a thick blanket of frost, forming what are commonly called "ghost trees." Notice how the frost is thickest toward the source of the steam.

A winter eruption of a large geyser on a calm, cold, clear day can be a photographer's dream. As the hot water of an erupting geyser is projected into the air, a magnificent column of water droplets forms and expands several hundred to a thousand feet into the air, gradually billowing out into an enormous mushroom-shaped cloud. It is the coldness of the winter air causing rapid condensation of steam which produces these remarkable effects.

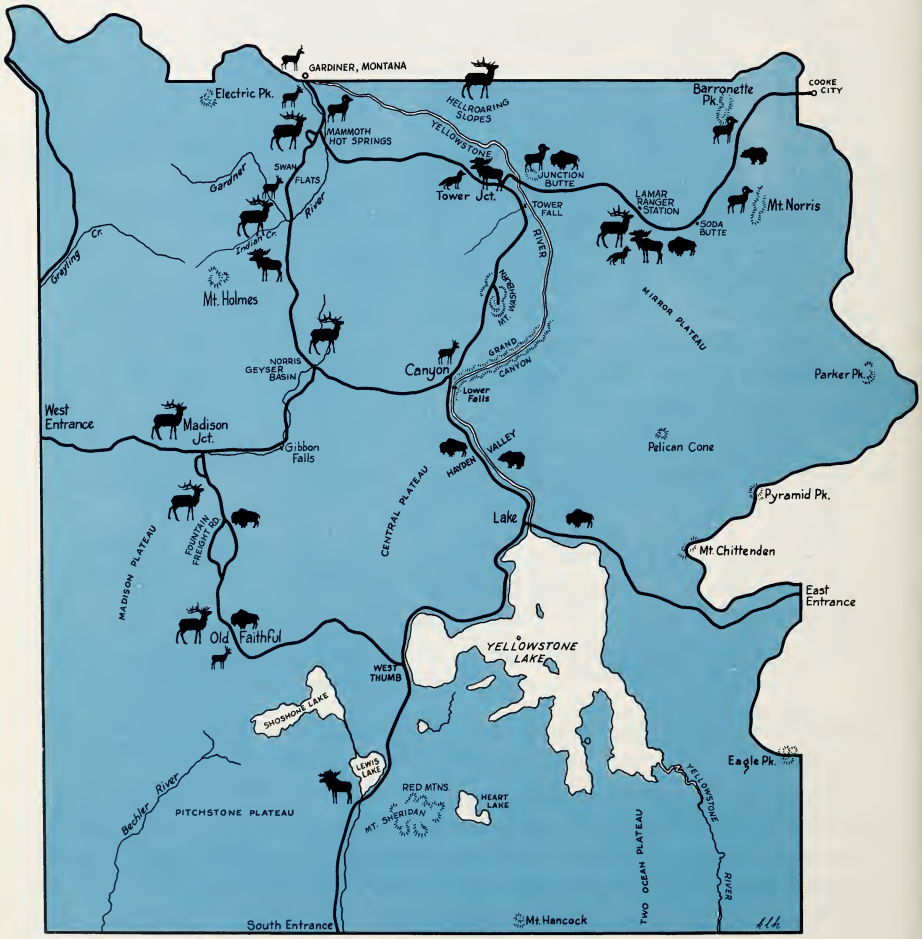


And there is more. A fascinating community of tiny living things in the thermal basins goes unnoticed by most visitors. Would you expect to find insects living outside in zero degree weather? Look closely at the runoff channels of hot springs and see a lush growth existing in one of the coldest areas in the country. In places green plants grow along the edge of runoff channels, and thick, luxurious mats of algae and bacteria line the bottom. Living in the algae mat and skimming the surface of the water is a community of mites, spiders, and flies, all dependent on one another for survival. The flies not only thrive in Yellowstone's winter but actually begin laying their eggs in mid-January. Their small, pink egg mass can be seen on rocks, twigs and other debris of the runoff channels. But if any of these insects stray more than a few inches from their thermally heated environment, they freeze immediately. Occasionally, a fly that became too venturesome can be found lying in the snow a short distance from the channel.

A unique type of frost formation occurs on warm ground in the thermal areas. Steam working up through the ground freezes upon reaching the surface, and clumps of frost columns are formed which grow from the bottom upward. Each individual column is about 1/16 of an inch thick and may be several inches long.

Thermal Area Precautions

You should know about special winter hazards if you explore the thermal basins. Snow accumulates on the boardwalks, with bare ground on each side. Bare ground during winter is a sign of thermal heat, which has risen from scalding water possibly covered by a thin, brittle crust. The runoff channels which are free of snow may tempt you to walk in them. But that would destroy the delicate algae beds and result in ugly scars which might take years to recover. For safety both to yourself and the delicate features in the thermal areas, stay on the boardwalks. When the snow on boardwalks is deep, skis or snowshoes are recommended.



ROAD LOG

Gardiner-Mammoth

Plowed and maintained year around, the road from Gardiner to the North Entrance through Mammoth and out the Northeast Entrance to Cooke City offers you an excellent opportunity to explore by auto a segment of Yellowstone during the winter. On this route, you pass through the heart of Yellowstone's winter wildlife range.

The North Entrance to the park is on the lowlands at the foot of the plateau country. Mammoth, about 5 miles south, is 1,000 feet higher on the side of the plateau. Snowline, or the lower limit of permanent winter snow, usually occurs between Mammoth and the North Entrance. Animals that live year around in the lowland mix with those that have moved down from higher elevations for the winter. Mule deer, elk, bighorn, and coyotes are common, and moose are occasionally seen. Pronghorn antelope are found on the flats surrounding the North Entrance station. Be sure to check both sides of the Gardner River near the entrance station, and the area north of Gardiner on the west side of the Yellowstone River.

Between Gardiner and Mammoth watch the cliffs along the east side of the road. This is the best location in the park for closeup views of bighorn.

Mammoth Hot Springs is the only major thermal area accessible by auto during the winter. A self-guiding trail is available to those who wish to brave the snow. Extreme care should be taken when hiking on boardwalks if they are snow-covered and slippery. A short loop road on the upper terrace is usually open and provides easy access to several interesting thermal features.

Mammoth-Tower Junction

During early winter when the snow is not too deep, watch for deer and elk. As winter progresses and snow becomes deeper, many deer move outside the park. Frequently, several hundred elk can be counted on Hellroaring Slopes during the early morning and late afternoon. The flat area around Tower Junction Ranger Station is a good place to look for coyotes and moose.

An interesting side trip by ski, snowshoe, or snowmobile may be taken from Tower Junction to Tower Falls (5 miles round-trip). An excellent view of Tower Falls can be seen from the viewpoint near Hamilton Store. By midwinter, the falls usually flow under a weird encasement of ice.

Bighorn sheep may be seen on the windblown cliffs and columnar basalt ridges above the Yellowstone River between Tower Junction and Tower Falls. Elk are found in the wooded area around Tower Falls and, on rare occasions, a wolf or wolf track is seen.

Tower Junction-Northeast

This area contains some of the most magnificent high mountain scenery in the park and offers one of the best opportunities to see elk, bison, and moose.

Bighorn are commonly seen during the winter on top of Junction Butte, and a herd of bison frequent the area around the base and to the east of the Butte.

As you travel east, look for elk, bison and moose in the Lamar Valley between the Lamar Ranger Station and Soda Butte. Watch the streamsides and willow bottoms for moose and the flats and foothills for bison and elk. Coyotes, and on rare occasions wolves, may be seen in the valley. The area around Soda Butte is especially good for seeing bison.

During spring watch for grizzly bear within the valley. They may be seen digging for roots or mice, grazing upon new grass shoots, attempting to prey upon elk or bison, or feeding on the carcasses of these animals.

Park at the Fossil Forest Roadside Exhibit east of the Lamar Ranger Station and scan the high windblown slopes and ridge tops forming the skyline on the north side of the road for bighorn sheep. During late winter some of these sheep move down along the north side of the road near the junction of the Lamar River and Soda Butte Creek.

From the vicinity of the Lamar River and Soda Butte Creek look for bighorn sheep on the high windblown ridges and steep grassy slopes to the southeast on the west end of Mount Norris.

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Bighorn are also frequently seen on the rocky ledges and steep slopes forming the prominent face of Baronett Peak northeast of Pebble Creek Campground.

High mountain scenery rises on both sides of the valley, crowding closer as you drive from Soda Butte to Cooke City.

Mammoth to Norris

Proceeding south from Mammoth, the road winds past the Mammoth Hot Springs Terraces up through Golden Gate Canyon. Bighorn are occasionally seen on the higher slopes of the canyon especially during the spring and fall.

You will pass Rustic Falls, small but picturesque, at the upper end of Golden Gate Canyon. At times, ice completely encases the falls.

On cold, clear days, the Gallatin Mountains rising from the western side of Swan Lake Flats are spectacular. As you continue south from Swan Lake Flats, watch for moose in the willow bottoms west of the roadway.

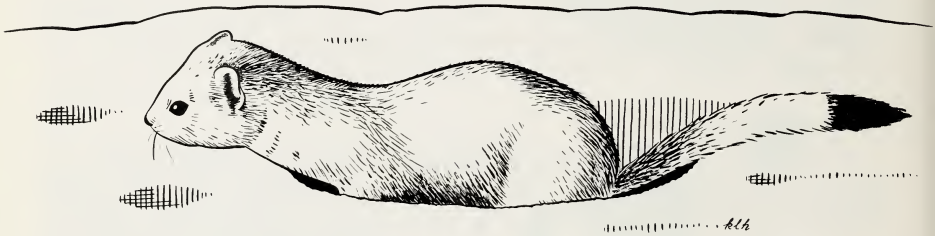
From Indian Creek Campground south to Old Faithful bands of elk often frequent the meadows, small open areas, and fringes of the forest. These are a part of a resident herd which stays in the interior of the park throughout the winter.

A short side trip into Norris Basin is well worthwhile. From the Norris Museum, you will get an exciting view of Porcelain Basin. Cold weather, steam, and boiling springs combine to produce "ghost trees" at the edges of the Basin. Be sure to stay on the boardwalk even though the snow is deep there. Look for elk in the Norris area.

Norris to Canyon

The road passes through the middle of a mature lodgepole forest. The forest is dense, ground cover sparse, and there is little food for wildlife: You may not see many more animals than squirrels, birds, and a few predators such as a pine marten or owl. Mule deer, bison, coyotes, and pine marten are occasionally seen in the Canyon area.

One of the best and safest winter views of Yellowstone Canyon and the Lower Falls is from Artist Point. From here you may see the huge ice cone which forms at the base of the falls and gets larger as winter progresses. But be cautious in approaching the rim of the Canyon. Snow cornices obscure the rim and give way easily. The north rim is particularly hazardous to foot travel.



Hayden Valley

A trip into Hayden Valley offers superb winter scenery and abundant waterfowl including the rare trumpeter swan along the Yellowstone River. You may get to see bison, and during the spring this is the best place in the park to look for grizzly bear.

Norris-Madison Junction

Watch for elk in the large meadows and along the streams. Stop at Gibbon Falls to see how winter transforms these lacy cascades.

Madison Junction-West Entrance

The Madison, Gibbon, and Firehole Rivers flow swiftly and, therefore, never freeze over. Waterfowl are found on all three rivers throughout the winter. Elk winter in the Madison Canyon in the vicinity of Madison Junction.

Madison Junction-Old Faithful

You may observe elk feeding on plants growing in the Firehole River. Groups of bison and lone bulls roam the area between the Lower Geyser Basin and Old Faithful. Try alternate routes of the Fountain Flat Drive and the Firehole Lake Drive, if you want to see more bison.

Elk, deer, coyotes, and pine marten are commonly seen in the Old Faithful area. And, of course, you won't want to miss the wide array of thermal features and winter weather phenomena of the geyser basins.

Precautions To Assure A Safe Trip

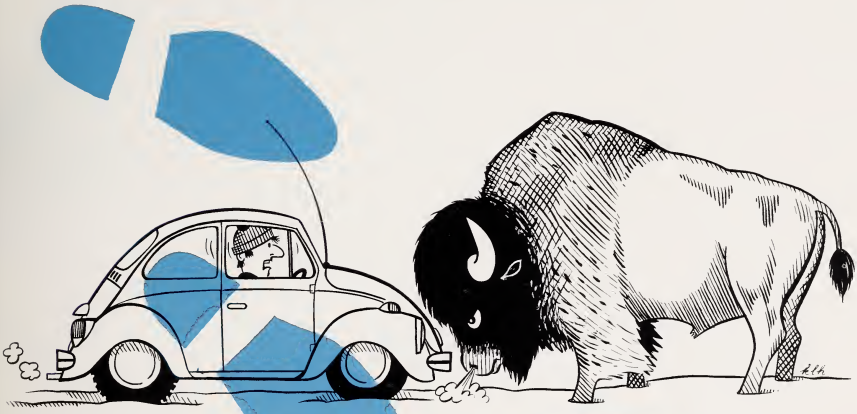
Don't undertake a trip by auto, snowmobile, skis or snowshoes when a storm is pending. Check local weather forecasts, road conditions, and regulations before departing.

If you plan a trip at odd hours or are traveling over snow, register at a ranger station giving full information on your trip.

Never approach wildlife closely. Large animals can move rapidly through the snow.

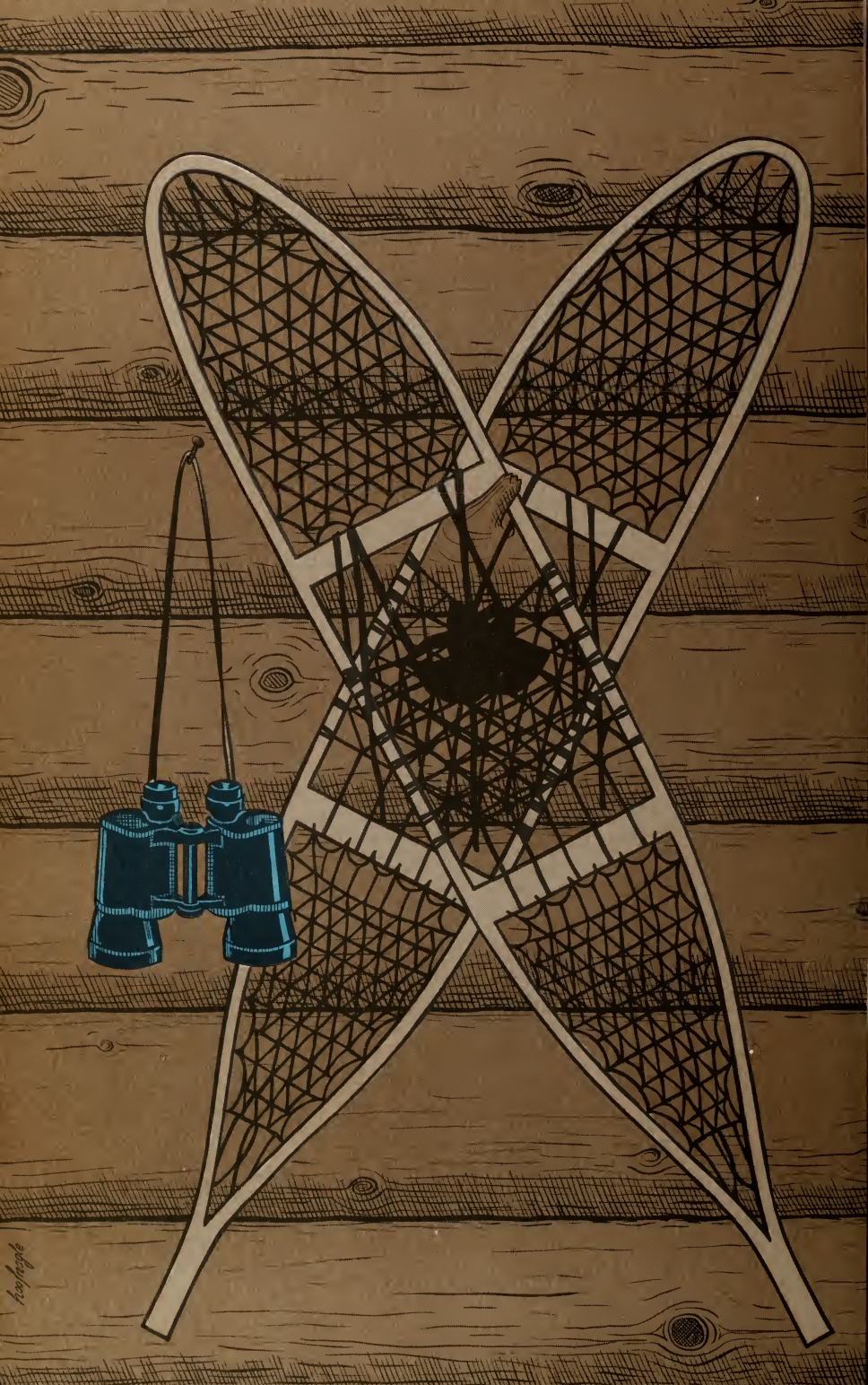
Be prepared to spend a night out if you should get caught by storm or accident.

Make sure your vehicle is properly equipped with emergency food, clothing, shovels, chains if traveling by auto, and snowshoes or skis if traveling by snow vehicle.



Yield right-of-way to animals at all times.

If snowmobiling, get a copy of snowmobile regulations.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